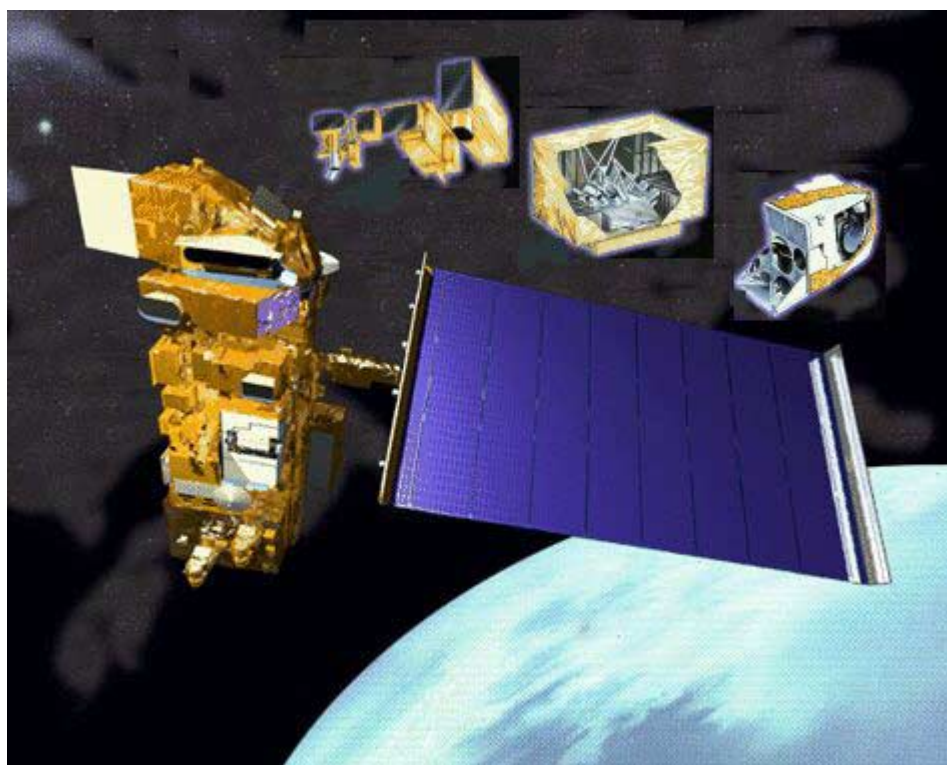

SSR Playback Automation Tool (SPLAT) Users Guide

Release 1.0



September 2002

**Goddard Space Flight Center
Greenbelt, Maryland**

Preface

Overview	This document provides detailed instructions for using the features of the SSR Playback Automation Tool (SPLAT). The NASA Goddard Space Flight Center's (GSFC) Mission Applications Branch (Code 583) developed SPLAT for the Terra Flight Operations Team. SPLAT is a software tool for partially automating the scheduling of playbacks for the SSR buffers on Terra.
Audience	This guide is intended for users of the SPLAT tool needing direction scheduling SSR buffer playbacks for Terra with SPLAT.
Applicability	The information in this document corresponds to SPLAT Release 1.0.
For more information:	<p>Copies of this document, along with questions or proposed changes, should be addressed to:</p> <p>Patricia Johnson Mission Applications Branch Code 583 Goddard Space Flight Center Greenbelt, Maryland 20771</p>

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1 Introduction

1.1 What is SPLAT?

Why Was SPLAT Developed?

The SSR Playback Automation Tool or SPLAT is a software package for partially automating the process of scheduling playbacks for Solid State Recorder (SSR) buffers on the Terra satellite during non-standard events and difficult planning periods. Limitations in the current scheduling system, the Mission Management System (MMS), preclude its use for scheduling SSR playbacks for non-standard events and difficult planning periods such as Inclination adjustments and loss of TDRS contact time. Developed to support the Terra Flight Operations Team (FOT), SPLAT automates the parsing of input reports, extraction of events from the files and generation of playback schedules.

Previously, this process involved using manual procedures supported by a collection of commercial off-the-shelf tools (COTS) such as Microsoft Excel.

SPLAT Functionality

In addition to partially automating the manually intensive task of scheduling playbacks for non-standard events and difficult planning periods, SPLAT provides the following functions:

- Automated parsing of required reports files. This includes the TDRS contact report, the ATC load report, the SSR buffer dump report, the Orbital events report, and the ground contact report.
- Extraction of events from the report files. Extracted events include NADIR Term crossing to Day/Night events, K, S and X band contacts, and ASTER imaging modes.
- Automatic and manual creation of dump windows within X and K band contacts.
- SSR Buffer Dump Schedule generation and playback determination.

Other functionality provided by SPLAT includes:

- The ability to filter the displayed and printed data.
- Customization of the SPLAT interface.
- The ability to save generated schedules and use them as baselines for future schedules.



While the ability to save generated schedules is included in version 1.0 of SPLAT, using saved schedules as baselines for future schedules will be implemented in a later release of SPLAT.

1.2 System Requirements

Overview

The SPLAT application is a cross-platform tool, written in Java. The following table describes the minimum system requirements for using SPLAT.

Minimum Specifications:

The system requirements for using SPLAT are as follows:

	Required	Recommended
OS	Windows 98, NT, 2000 or ME. In addition SPLAT should run on any operating system that supports Java 2 (JRE 1.4). However SPLAT has only been tested on the Windows platform	Windows NT or 2000. In addition SPLAT should run on any operating system that supports Java 2 (JRE 1.4). However SPLAT has only been tested on the Windows platform
Memory	128 MB RAM	256 MB RAM
Processor	Pentium II class or faster processor	Pentium III 500 MHz or faster processor
Disk Space	45 MB (additional space may be required to store saved schedules)	100 MB (additional space may be required to store saved schedules)
Video	800 x 600	1024 x 768
Other	CD Rom Drive	CD Rom Drive

Note:

Future versions of SPLAT will be tested on the Unix platform.

1.3 Using this Manual

Organization of this Manual This manual describes the operations one can perform using SPLAT and how to use the different features of the tool. The manual is organized as follows:

- Section 1 of this document provides introductory material.
 - Section 2 provides basic instructions for getting started with SPLAT.
 - Section 3 provides instructions for working with schedules.
 - Section 4 provides instructions for filtering the data displayed and printed.
 - Section 5 provides miscellaneous information about SPLAT and its use.
-

Conventions

The following terms and notational conventions are used in this document:



Indicates a procedure, directing the user on how to perform a particular action.

Note:

Indicates a note, providing information that may be helpful to the user.



Indicates a Warning, Caution, or other important information that users should know.

bold serif type

Indicates menu items, buttons or check boxes that perform some action when selected with the mouse. Can also indicate window and field titles.

Italics

For menu selections may also be performed using a combination of keystrokes, the keystrokes are listed in italics (e.g. *Ctrl+A*).

"Italics"

Indicates system messages displayed to the user.

Items in CAPS

Indicates a specific key on the keyboard (e.g. TAB or ENTER).

2 Getting Started

2.1 Installing SPLAT

Before You Begin:

To install SPLAT, your computer must have a CD-ROM drive, or you must have access to the SPLAT installation zip file on separate media (generally a ZIP disk). We recommend installing from CD-ROM if possible. Please refer to Section 1.2, [System Requirements](#), to verify that your system meets the minimum requirements for SPLAT.



Installing SPLAT from CD-ROM:

1. Insert the SPLAT CD in the CD-ROM drive.
2. Create a folder on your computer for the SPLAT distribution.
3. Copy the contents of the CD-ROM into the folder you created in step 2.
4. SPLAT is now installed on your computer.



Installing SPLAT from a zip file:

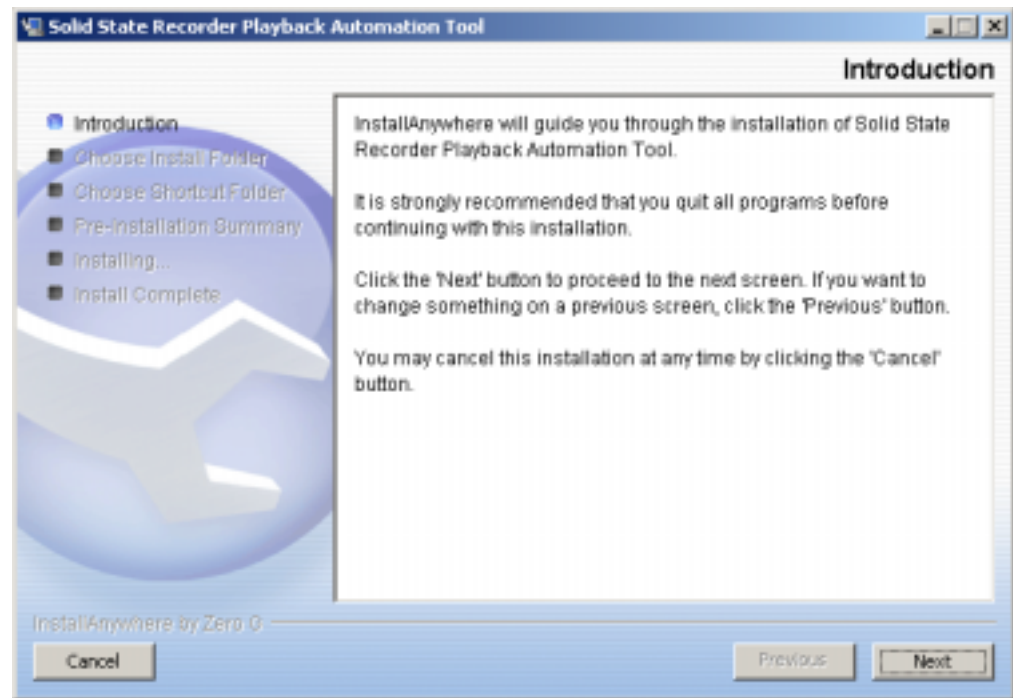
1. Create a folder on your computer for the SPLAT distribution.
2. Extract the contents of the zip file into the folder you created in step 1.
3. SPLAT is now installed on your computer.



Installing SPLAT from CD-ROM using the graphical installer:

1. Insert the SPLAT CD in the CD-ROM drive.
2. Double click on the installation file: "install_splat.exe".
3. Follow the directions in the wizard to install the system Figure 2-2 shows a picture of the installation wizard. You will need to provide the following information:
 - a. The location on your computer where you want to install SPLAT
 - b. The location on your computer where you want to install the shortcut to SPLAT. Note that a default location will be provided by the installer..
4. After you have provided all necessary information, the Installer installs SPLAT on your computer in the specified location. When the installation is complete, click the **Finished** button and SPLAT is now installed on your computer.

Figure 2.1
The SPLAT
Installation
Screen



2.2 Starting and Quitting SPLAT

Before You Begin

SPLAT should be properly installed on your computer.



To Start SPLAT on a Windows machine:

1. Open the folder in which you installed SPLAT.
2. Double click on the “Start Splat.bat” file.
3. Or double click on the desktop shortcut for SPLAT.



To Start SPLAT on a Windows machine (if you installed using the graphical installer):

1. Click the Windows **Start** button.
2. Select **Programs**.
3. Select **SPLAT**.
4. Click on the **Splat** button.



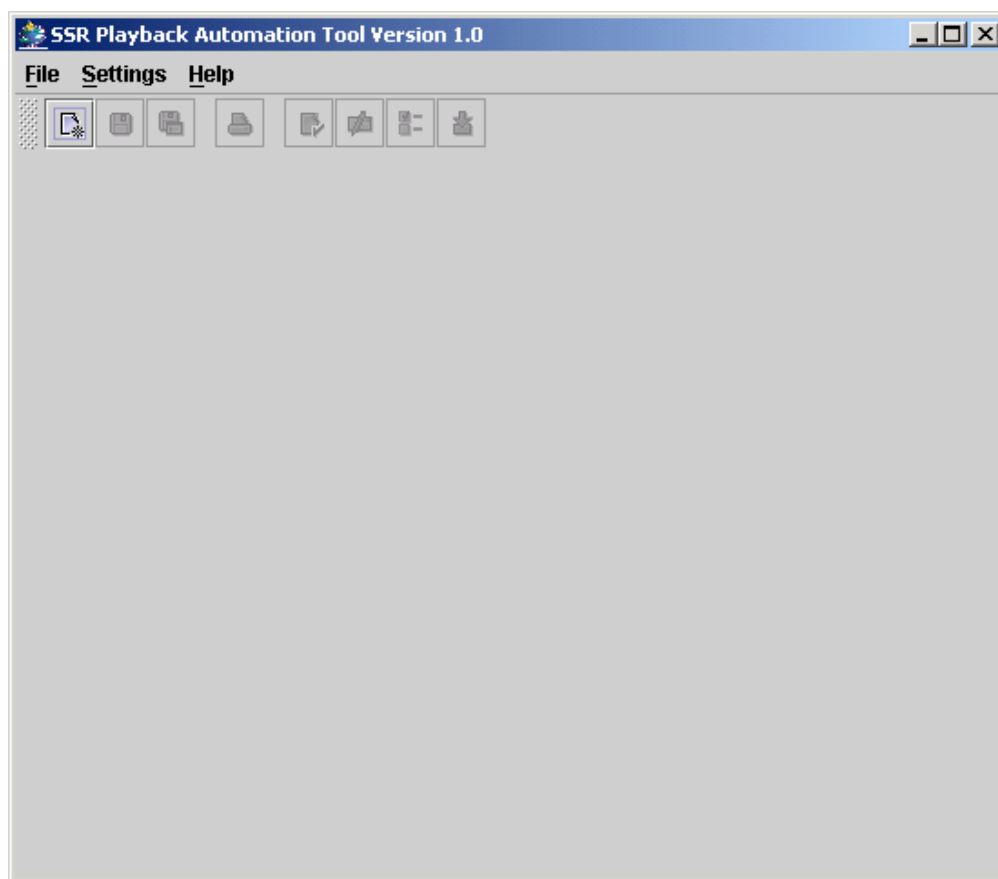
Note:

A “splash screen” (see Figure 2.2) is displayed while the system loads. After loading, the SPLAT Main Window is displayed (see Figure 2.3).

Figure 2.2
The SPLAT
Splash Screen



Figure 2.3
The SPLAT Main
Window



To Quit SPLAT:

Pull down the **File** menu and choose **Exit**. Or use the ALT + X keyboard shortcut, or click the close box in the upper right hand corner of the main window. Selecting any of these options causes the application to shut down.

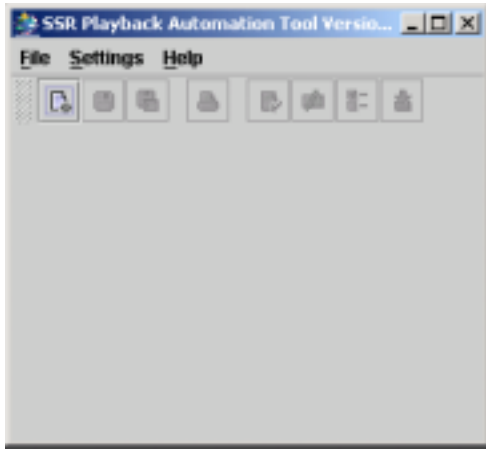

2.3 SPLAT Windows

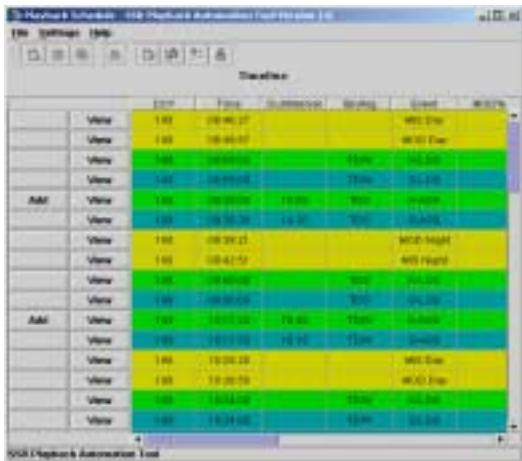


Overview

The SPLAT interface is composed of a single main application window. Within the main application window is a timeline that displays schedule information such as contact periods, dump windows, playback windows etc. Additionally, the main window provides a menu bar for controlling system operation and a tool bar containing frequently used features of SPLAT.

SPLAT Windows

The following are a few of the many windows (dialogs) in SPLAT. Other windows are introduced later in this document to describe different functionality.

Title	Window	Description
Main Window		This is the main application window presented to the user at program start-up. Through this window, the operator controls the SPLAT tool.
Timeline		The main application window showing an empty timeline.

Timeline		The main application window showing a timeline containing several events.
Scheduling Options		The scheduling options window is used to specify required scheduling value such as the scheduling horizon, report location, modeling modes, etc
Preferences		The options in the preferences window are used to customize the appearance of the SPLAT user interface.









2.4 SPLAT Toolbar

Overview

The SPLAT main window contains a toolbar of buttons. The buttons provides quick access to often-used functions of SPLAT. This section describes the toolbar and the features it provide.

Main Window Toolbar

The main SPLAT window contains a selection of commonly used features in a toolbar. This toolbar is always available, although certain tools (options) may be disabled based on the context (e.g., the create contacts tool will be unavailable if scheduling options have not been specified). The following operations are available on the toolbar:

Tool	Function
	New Schedule: Creates a new playback schedule. Existing schedules are closed (saved or not based on user selection) before the new schedule is created.
	Save Schedule: Saves the current schedule in binary format.
	Save Schedule as Text: Saves the current schedule in text format.
	Print Schedule: Sends the current schedule to a printer.
	Scheduling Options: Pops up the scheduling options dialog for specifying the scheduling options needed by SPLAT.
	Create Contacts: Parses the reports files and extract events from the files and displays them on the timeline.
	Select Sync Point: Displays the synchronization point selection dialog.
	Generate Schedule: Generates and displays an SSR playback schedule.

2.5 SPLAT Menu

Overview

The SPLAT main window contains a single menu for accessing ALL SPLAT functionality. This section details the functionality provided by the menu bar and how to access the operations.

Menu Item	Function
File>	<p>The File menu handles most file management tasks for SPLAT. Items contained in this menu include:</p> <ul style="list-style-type: none">Creating a New schedule.Saving a schedule (both in binary and text formats).Closing a schedule.Specifying scheduling options. Creating contacts.Selecting a synchronization point.Generating a schedule.Exiting the system.
Settings>	<p>This menu contains features for customizing SPLAT. Items contained in this menu include:</p> <ul style="list-style-type: none">Selecting display and print filters.Editing ASTER modeling rates.Setting user preferences
Help>	<p>This menu provides access to Tip of the Day and SPLAT online help.</p>

3 Working with Schedules

3.1 Creating a New Schedule

Overview

Playback Schedules are the products of SPLAT. A playback schedule consists of a synchronization point, contact periods, rate change events, (such as MODIS DAY and MODIS NIGHT) dump windows and playback periods.



To create a new schedule:


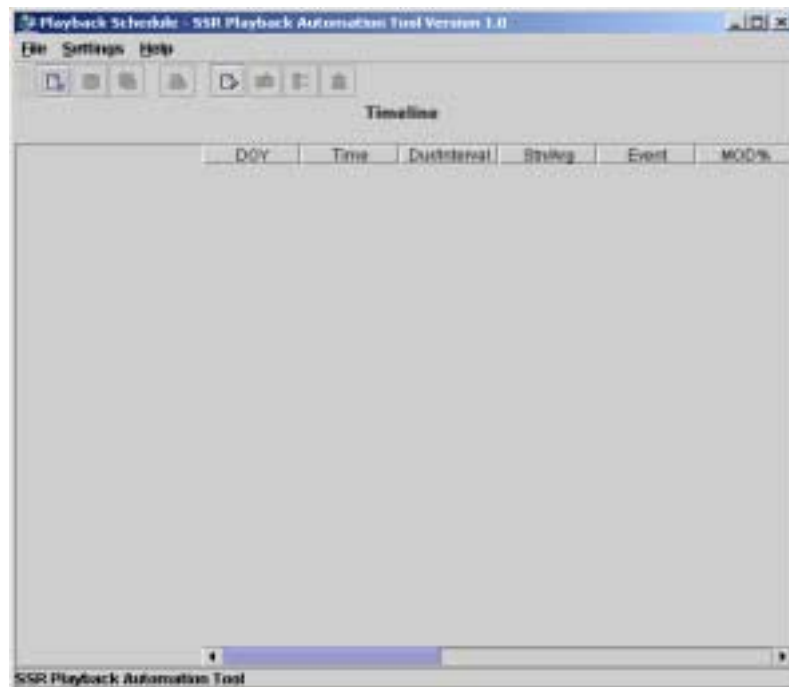
1. Pull down the **File** menu and choose **New** OR
Click on the **New** icon on the toolbar. 
2. The system empties the internal schedule, clears the list of events and contacts, and clears the timeline.
3. If an unsaved schedule is currently open in the application, SPLAT prompts the user to save the file.
Select **Yes** to save the old schedule. (Note that you will be prompted for a file name and location)
Select **No** to discard the current schedule without saving.
Select **Cancel** to retain the current schedule.
4. Figure 3.1 shows the main window after creating a new schedule.

Figure 3.1:
SPLAT window
showing a new
schedule



3.2 Scheduling Options

Overview

After creating a new schedule, the next step in generating a playback schedule is to specify the scheduling options to be used for schedule generation. This includes specifying the plan start and stop times, ASTER modeling mode and percentage, and the location of report files.

Note:

For Splat v1.0, report files must be located on the same computer as SPLAT or on a network location accessible from the computer on which SPLAT is installed. Future release of SPLAT will include the functionality to retrieve the reports directly from MMS.



To open the scheduling options window:

Pull down the **File** menu and choose **Scheduling Options...** OR

Click on the **Scheduling Options** icon on the toolbar.  .

Figure 3.2 shows the scheduling options window.



The scheduling options windows contains the following user specified fields:

Plan Start	This is the start date/time for the special event schedule. Format is: yyyy/doy/hh:mm:ss.
Plan Stop	This is the plan stop date/time. During parsing of report files, events that occur after the plan stop time are ignored. The plan start and stop time are used to limit the events parsed from report files. Format is: yyyy/doy/hh:mm:ss.
Max Sync Point Offset	This value is used in conjunction with the plan start time. In the window of time specified by the different between the plan start time and the plan start time minus the sync point offset, SPLAT searches for candidate synchronization points (i.e. contact periods where all buffers of the SSR can be completely emptied). Format is: hh:mm.
Aster Modeling Mode	A flag indicating how SPLAT will model the ASTER Buffer. Selecting "Manual" (the default option) instructs SPLAT to use a fixed percentage to modeling ASTER usage. Selecting "Automatic" instructs SPLAT to model ASTER usage based on actual ASTER usage as specified in the ATC load report. Note that when "Automatic" is selected, an ATC load report must be specified during report selection.
Aster Modeling %	A fixed percentage value. Used for modeling the ASTER buffer usage in "Manual" mode. This field is not required if Aster Modeling Mode is set to "Automatic".

Reports Location A drop down box indicating the location of the required input reports. The default option, "Local Directory", indicates that reports are on the local computer on which SPLAT is running or on a network accessible drive. The other option "MMS" instructs SPLAT to retrieve the reports directly from MMS.



The functionality to automatically retrieve report data from MMS has not been implemented. It is scheduled for implementation in a later release of SPLAT.

Figure 3.2: The Scheduling Options Window



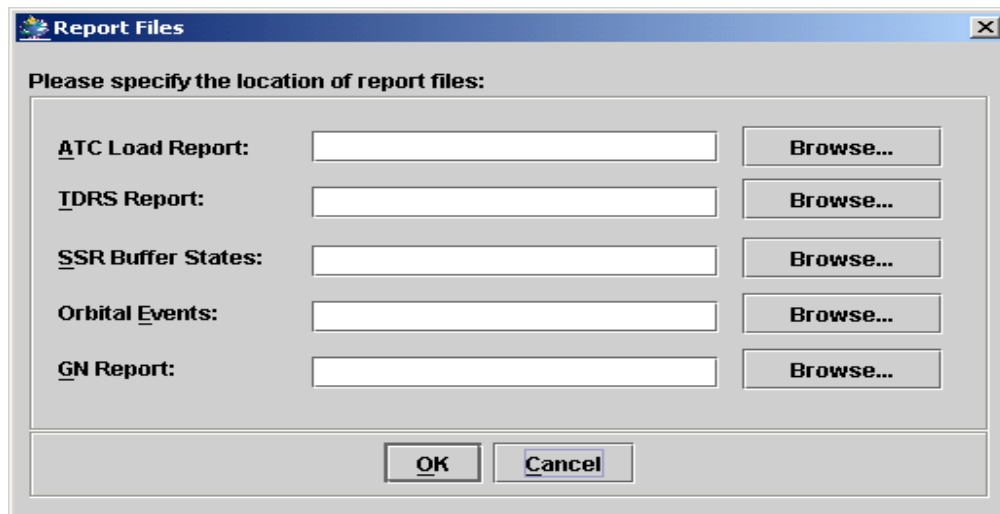
To Select the reports used during schedule generation, the user must select the **Select Reports...** button on the scheduling options window. Selecting this option causes SPLAT to display the inputs reports window (Figure 3.3)



Within the reports window, the operator specifies the name and location of the input reports. The input reports window contains the following fields:

ATC Load Report	The ATC load report contains the ASTER RTCS IDs. When specified, SPLAT parses the valid IDs and adds the events to the timeline. For a list of the default RTCS IDs, how to add more IDs, and how to delete unwanted IDs, see Section 5.5: ASTER RTCS Identifiers . Note that this report is required, and visible only when Aster Modeling Mode is set to "Automatic".
TDRS Report	This report contains K-band and S-band TDRS contact periods.
SSR Buffer States	This report contains buffer states entries for use in sync point determination.
Orbital Events	This report contains NADIR_TERM_CROSSING events used to determine MODIS and MISR DAY/NIGHT.
GN Report	This report contains X-band or ground contact periods.

Figure 3.3: The
Scheduling
Options Window



The image shows a Windows-style dialog box titled "Report Files". The main text inside the dialog says "Please specify the location of report files:". Below this text, there are five rows, each with a label, a text input field, and a "Browse..." button. The labels are: "ATC Load Report:", "TDRS Report:", "SSR Buffer States:", "Orbital Events:", and "GN Report:". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Report Type	Text Box	Button
ATC Load Report:	<input type="text"/>	Browse...
TDRS Report:	<input type="text"/>	Browse...
SSR Buffer States:	<input type="text"/>	Browse...
Orbital Events:	<input type="text"/>	Browse...
GN Report:	<input type="text"/>	Browse...

OK Cancel

Note:

Clicking on any of the **Browse...** buttons causes a standard file browser to be displayed. Through the file browser, one can visually locate report files. Otherwise one can enter the fully qualified filename in the accompanying text box.

3.3 Layout of the Timeline

Overview

The timeline displayed in the main window contains a wealth of information regarding the playback schedule events. This section describes the layout of the data on the timeline and description of the available fields. Note that descriptions of field contents will be delayed to later sections.



Each event on the timeline contains the following fields: Note that some fields are not valid or used for some event types.

Add button	This button is only valid (has a label and is active) for K or X band contact periods. This button allows the operator to add a new dump window to the contact period.
Edit Button	This button is valid (present) only for dump windows. This button allows the operator to modify or remove an existing dump window.
View Button	This button allows the operator to enter a comment for the event.
DOY	This field contains the integer day of the year for the event.
Time	This field contains the time of the event.
Dur/Interval	This field has different meanings depending on the event type. For contact periods, this field contains the duration of the contact. For playback start events this field contains the difference between the start of this playback and previous playback and for playback stop events, this field contains the safety margin or difference between the actual playback end and the end of the corresponding dump window.
Station/Arg	This field contains station name or argument data depending on the event type. For TDRS contacts, this field contains the 3-character name of the contact. For playback start events, this field contains the PBLEX argument (playback duration) if the playback is a FLEX playback, or the maximum dump percentages for the MODIS, MISR, and ASTER buffers separated by commas for non-flex playbacks.
Event	This field contains the type of the event.
MOD%	This field is only valid for synchronization point events, playback start events, and playback carryover events. The field contains the MODIS buffer usage in percent.
MIS%	This field is only valid for synchronization point events, playback start events, and playback carryover events. The field contains the MISR buffer usage in percent.

AST%	This field is only valid for synchronization point events, playback start events, and playback carryover events. The field contains the ASTER buffer usage in percent.
MOD	This field is only valid for synchronization point events, playback start events, and playback carryover events. The field contains the time allocated to playing back data from the MODIS buffer.
MIS	This field is only valid for synchronization point events, playback start events, and playback carryover events. The field contains the time allocated to playing back data from the MISR buffer.
AST	This field is only valid for synchronization point events, playback start events, and playback carryover events. The field contains the time allocated to playing back data from the ASTER buffer.
TOT	This field is only valid for playback start events. The field contains the Total playback time allocated for all buffers.
MOD_Lim	This field is only valid for playback start events. The field contains a color-coded value if the MODIS buffer usage exceeds the user specified Red or Yellow Limit.
MIS_Lim	This field is only valid for playback start events. The field contains a color-coded value if the MISR buffer usage exceeds the user specified Red or Yellow Limit.
AST_Lim	This field is only valid for playback start events. The field contains a color-coded value if the ASTER buffer usage exceeds the user specified Red or Yellow Limit.
Comments	This field contains a user specified comment for the event.

3.4 Creating Contacts

Overview

Creating contacts is the process of parsing the selected report files and extracting required events. Extracted events are then filtered and displayed on the timeline. During contact creation, SPLAT also selects a synchronization point and places initial dump windows in contact periods.



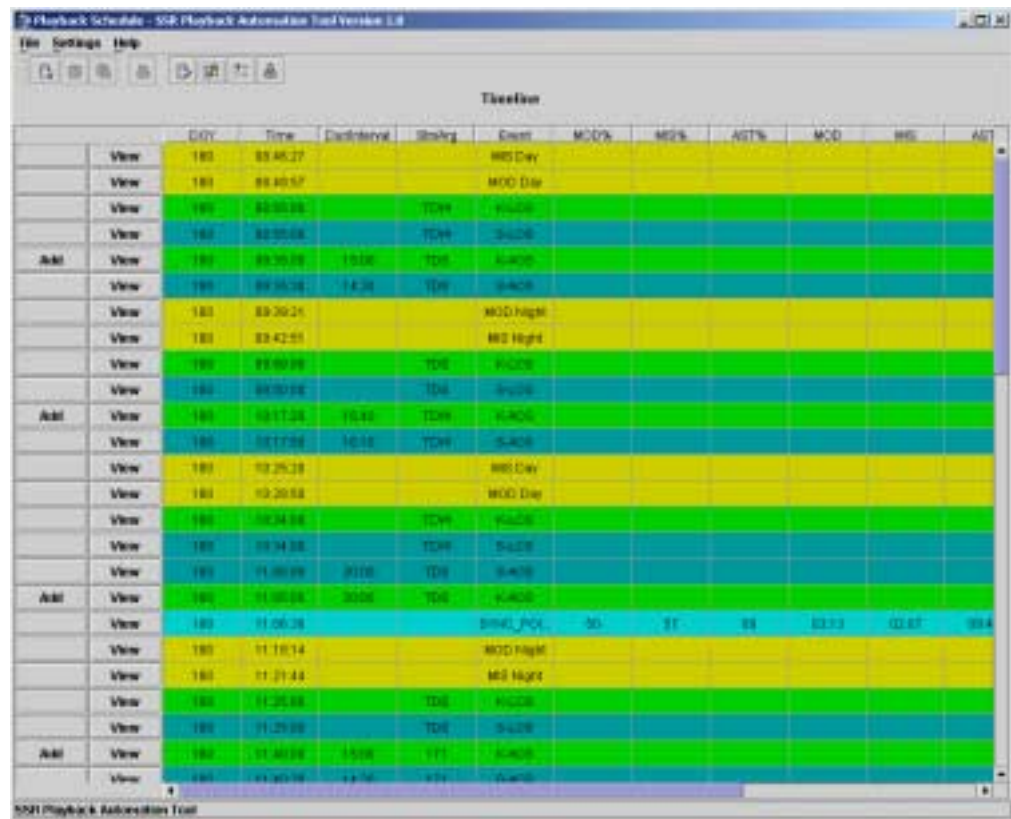
To create contacts:

Pull down the **File** menu and select **Create Contacts OR**

Click on the **Create Contacts** icon on the toolbar.

Figure 3.4 shows the main window and timeline after contact creation..

Figure 3.4: The SPLAT timeline after creating contacts



Since contact lists cannot be created until the scheduling options have been specified, the **Create Contacts** operation is disabled until scheduling options have been specified.

3.5 Generating a Schedule

Overview

Generating a schedule is the final step in creating an SSR playback schedule. The end product of this step is an SSR playback schedule that can be saved (either as binary or as text) or printed.



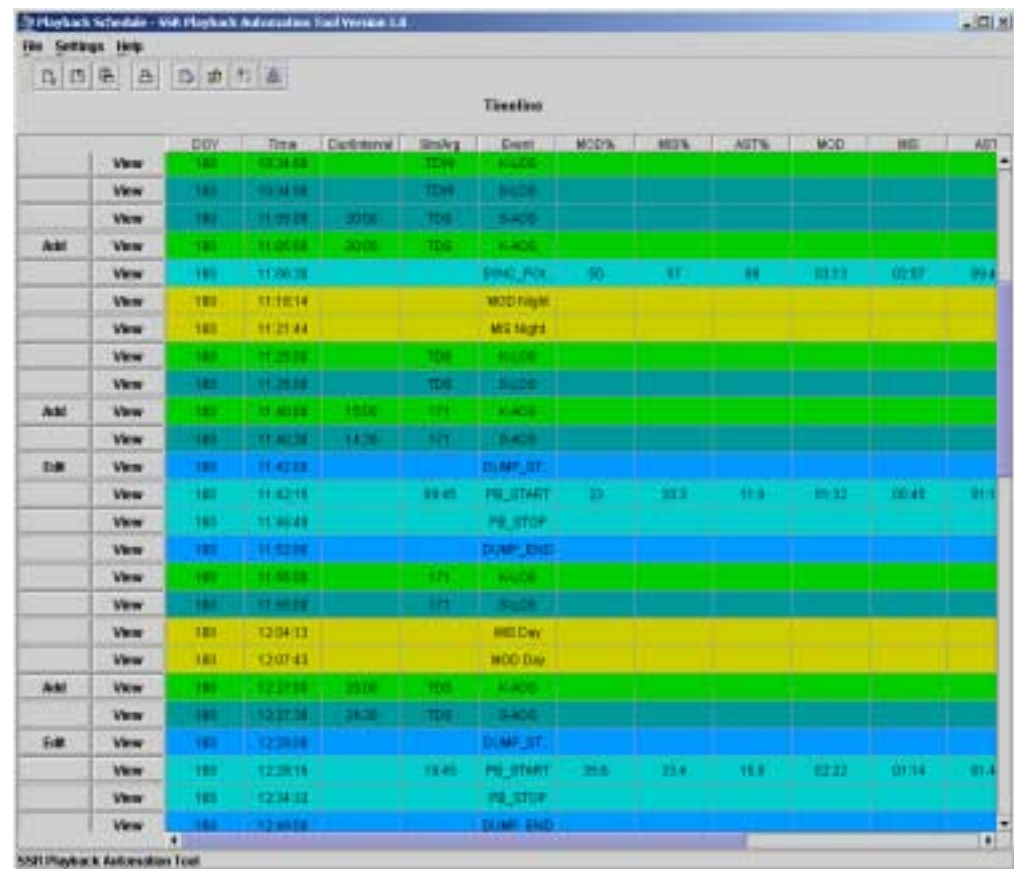
To generate a playback schedule:

Pull down the **File** menu and choose **Generate SSR Playbacks** OR

Click on the **Generate SSR Playbacks** icon on the toolbar. 

Figure 3.5 shows a completed schedule.

Figure 3.5: The SPLAT timeline after generating a playback schedule



SPLAT automatically creates synchronization points and dump windows during contact list creation. The user may change the selected synchronization point, add, edit or delete dump windows before generating the schedule.



Use the **Add** and **Edit** buttons to work with dump windows prior to generating the schedule. See Section 5.2: [Dump Windows](#)



To select a different synchronization point:

Pull down the **File** menu and choose **Synchronization Points...** OR

Click on the **Synchronization Points** icon on the toolbar. 

See Section 5.3: [Synchronization Points](#) for more information on synchronization points and their usage.

3.6 Saving Schedules

Overview

The currently active (visible) playback schedule can be saved in either binary or text format. Schedules saved as binary can be reloaded into SPLAT and used as a starting point for creating new schedules (**available in SPLAT version 2.0**) while text files cannot be reloaded into SPLAT. The save as text option is provided for archival purposes so that human readable versions of complete schedules can be maintained for later review. For text saves, the timeline data saved is not filtered in any way. All event types and fields are saved.



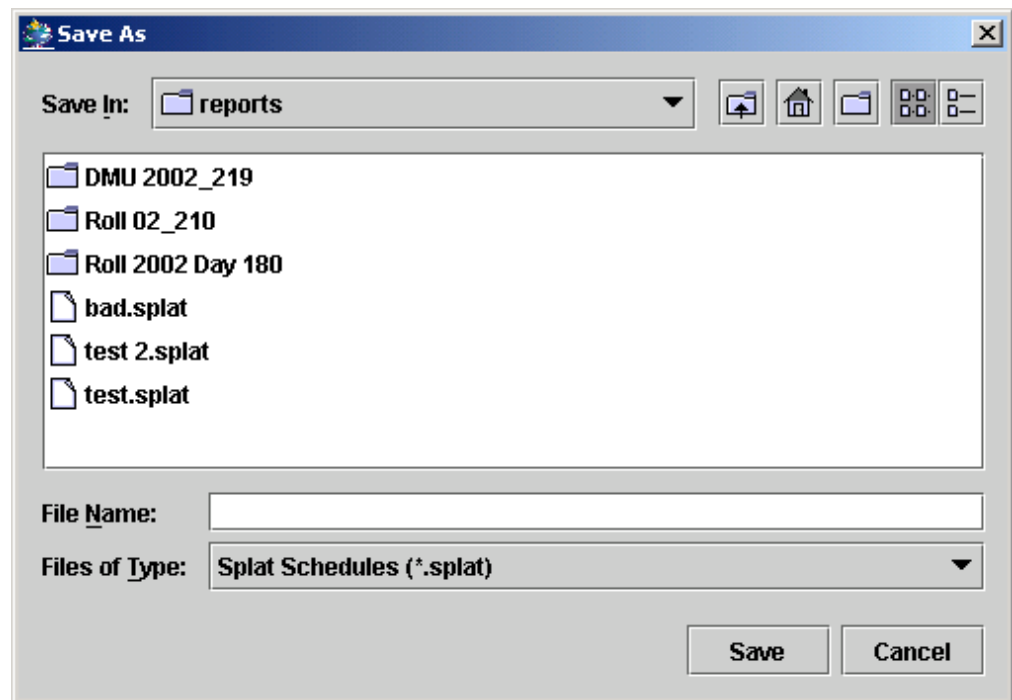
To save a schedule in binary format:

Pull down the **File** menu and choose **Save OR**

Click on the **Save Schedule** icon on the toolbar. 

Figure 3.5 shows the dialog presented to the operator for saving schedules in binary.

Figure 3.5: The Save As dialog to save in binary format



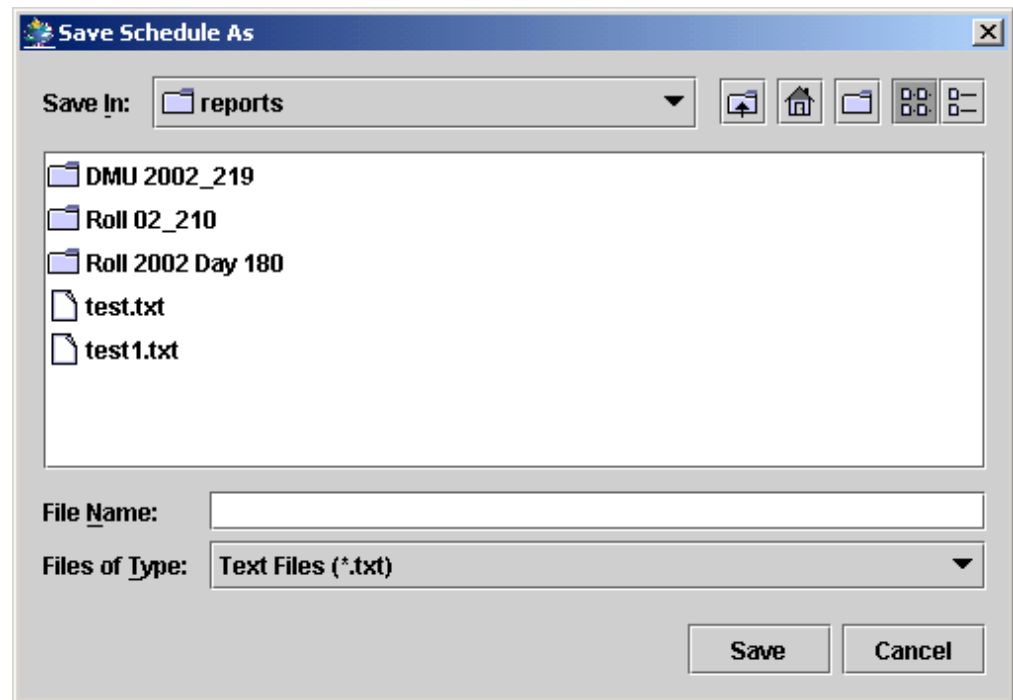
To save a schedule in text format:

Pull down the **File** menu and choose **Save As Text OR**

Click on the **Save As Text** icon on the toolbar. 

Figure 3.6 shows the dialog box displayed when saving schedules as text.

Figure 3.6: The Save As dialog to save in text format



If the user selects the name of an existing file, SPLAT prompts the user to confirm that it is okay to overwrite the existing file. Selecting **Yes** causes the tool to overwrite the existing file. Selecting **No** allows the operator to specify another file name.

For Binary saves, files are saved with a “.splat” extension. Text saves result in a file with a “.txt” extension.

3.7 Printing Schedules

Overview

The currently active (visible) schedule can be sent to a printer for printing. The user may choose to customize the fields and/or events that are included in printouts by using the print filters. See Section 4.3: [Print Filters](#) for information on how to use print filters to control the amount and type of data printed.



To print a schedule:

Pull down the **File** menu and choose **Print OR**

Click on the **Print** icon on the toolbar. 



SPLAT displays a dialog that allows the user to enter additional text to be included with the printed schedule.

Click **Print** to immediately print the schedule without previewing it.

Click **Preview** to view a print preview of the schedule before printing. The print preview display is shown in Figure 3.8.

Click **Cancel** to cancel printing.

Figure 3.7 shows the additional header text dialog.

Figure 3.7: The dialog for entering additional text

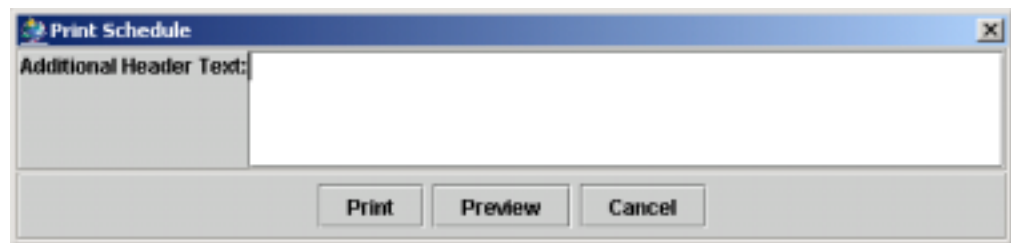


Figure 3.8: The print preview window

[illegible]

Note: Depending on how the print filters have been set, the user may find that all the columns are not displayed. Either reduce the number of columns printed or use the **Page Setup** (under the **File** menu) to select a wider paper type (e.g. Legal). Be sure to verify that your printer can support the paper type you selected.

Note: Print filters can be used to control the amount of data shown on the printed schedule (and print preview). See Section 4.3: [Print Filters](#)

4 Filtering Data

4.1 Filters

Overview

SPLAT allows the user to filter the amount and types of data shown in both the timeline and printed schedules. Simply put, filters are a way to limit the amount of data shown on the timeline and/or in printed schedules. SPLAT allows filtering by event type (i.e. row filtering) and fields (i.e. column filtering). Display filters affect the information shown on the timeline while print filters affect information included in printed schedules.

There are two types of filters: event filters and field filters. Event filters allow the user to select which event types to display on the timeline or to include in the printed schedule. Field filters on the other hand affect the fields shown for each event. In essence event filters filter row-wise while field filters filter column-wise.

Note:

While field filters are fixed in number and never change, event filters vary based on the types of report files used to generate the schedule. As such the user will not be able to configure event filters until reports have been parsed. In addition changes to event filters are not persistent across multiple invocations of SPLAT. However, changes to field filters are persistent.

4.2 Display Filters

Overview

Display filters allow the user to customize the amounts and types of data shown on the timeline. The display filter contains both event and field filters. You can edit either type of filter from the display filter window.



To edit the display filters:

Pull down the **Settings** menu, choose **Filters** and then choose **Display Filters** OR

Use the **CTRL+SHIFT+D** keyboard shortcut.

The display filters windows are shown in Figures 4.1 and 4.2.

Figure 4.1: The display filters window showing fields filter

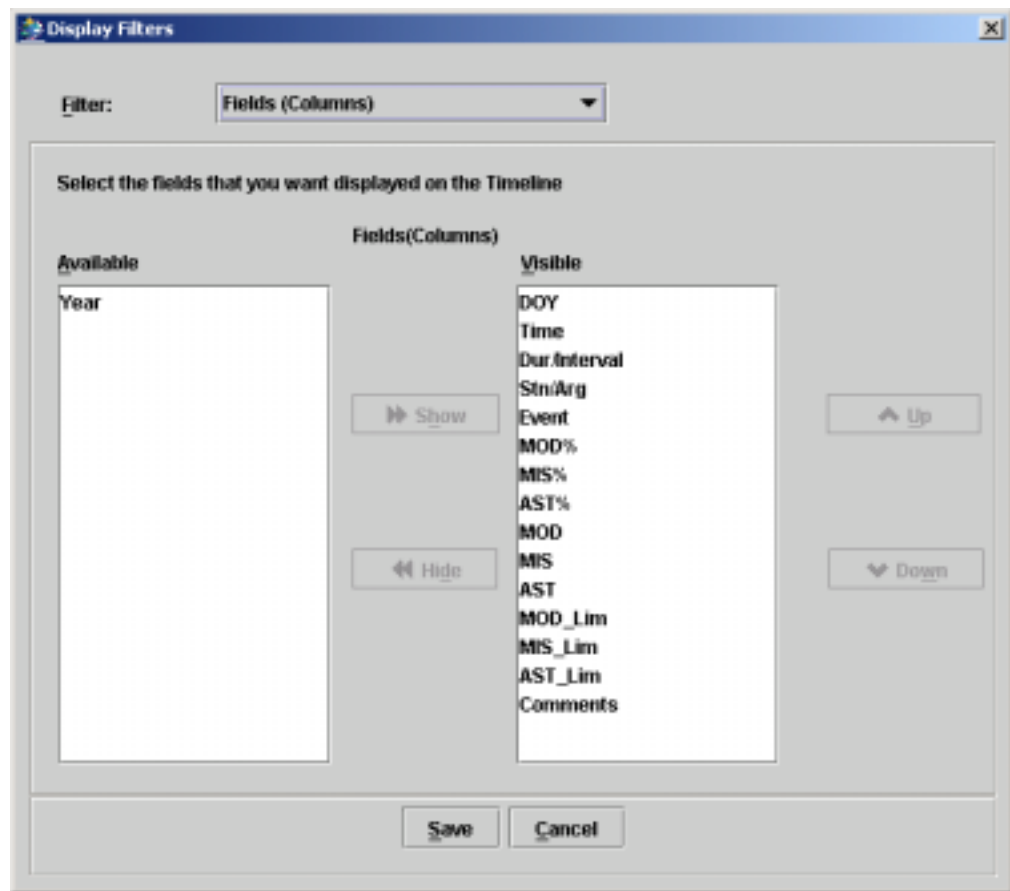
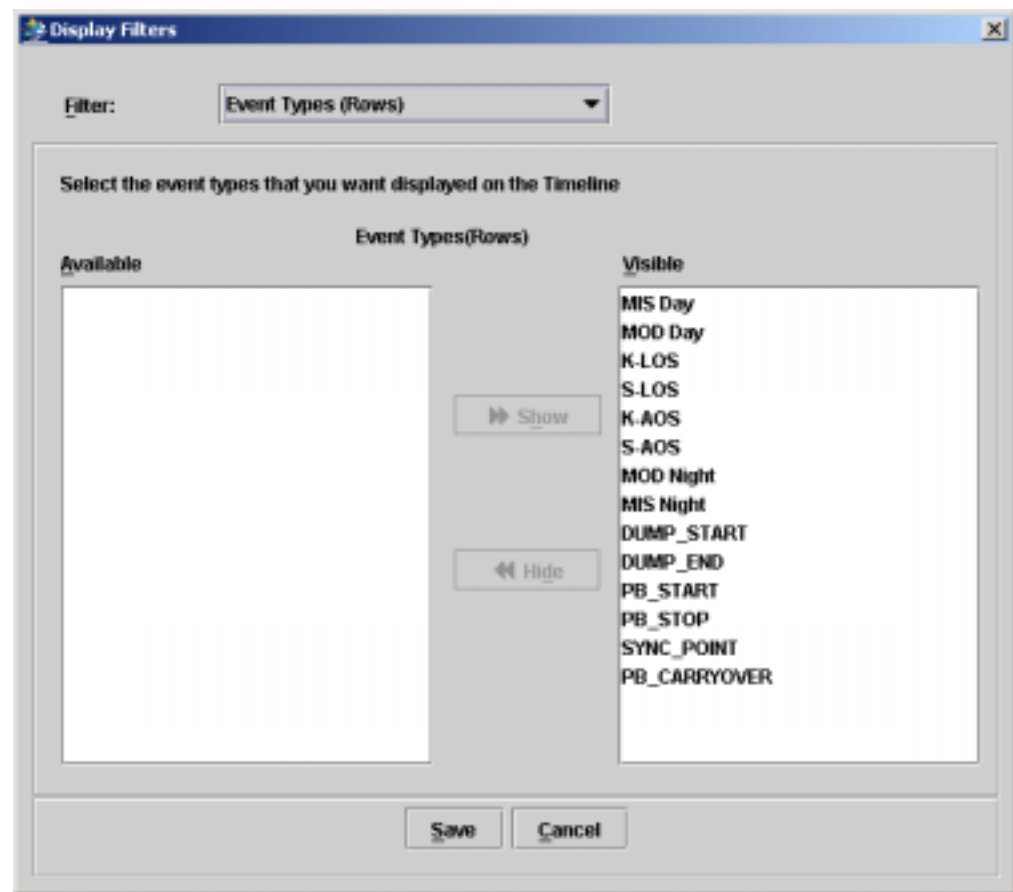


Figure 4.2: The display filters window showing event filter



To make a field or event type visible:

1. Select the field or event type from the left list (Available).
2. Click the **Show** button to move it to the right list (Visible).



To make a field or event type invisible:

1. Select the field or event type from the right list (Visible).
2. Click the **Hide** button to move it to the left list (Available).

Note:

The ordering of fields on the timeline is user customizable. The order in which the fields are displayed in the filter box determines the order of the fields on the timeline.



To change the order of fields on the timeline:

1. Select the field or a group of contiguous fields from the right list (Visible).

- Click the **Up** button to move the selection up in the list and causes the fields to be moved to the left on the timeline. Selecting the **Down** button to moves the selection down in the list and right on the timeline..

Note: The user may also select multiple contiguous fields before clicking the **Show**, **Hide**, **Up** or **Down** buttons.



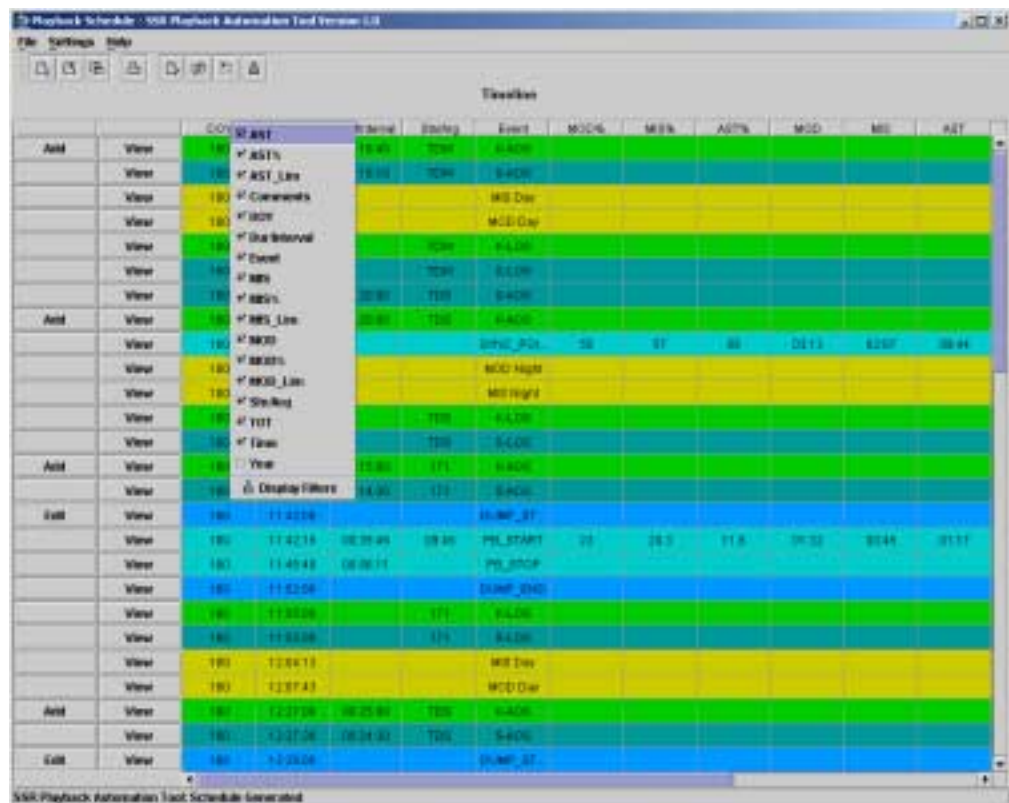
The user may also access the display filter by clicking the right mouse on the timeline column headers. This displays a list of checkboxes, each representing a column in the timeline.

- Uncheck a column's checkbox to make the column invisible.
- Check a column's checkbox to make the column visible.



In addition, the user can re-arrange the column settings by dragging columns from one position to the other.

Figure 4.3: The timeline showing the right-click menu



4.3 Print Filters

Overview

Print filters allow the user to customize the amounts and types of data shown in the printed schedule. The print filter contains both event and field filters. The user edits both filters within the same window.



To edit the print filters:

Pull down the **Settings** menu, choose **Filters** and then choose **Print Filters** OR

Use the *CTRL+SHIFT+P* keyboard shortcut.

The display filter windows are shown in Figures 4.4 and 4.5.

Figure 4.4: The print filters window showing fields filter

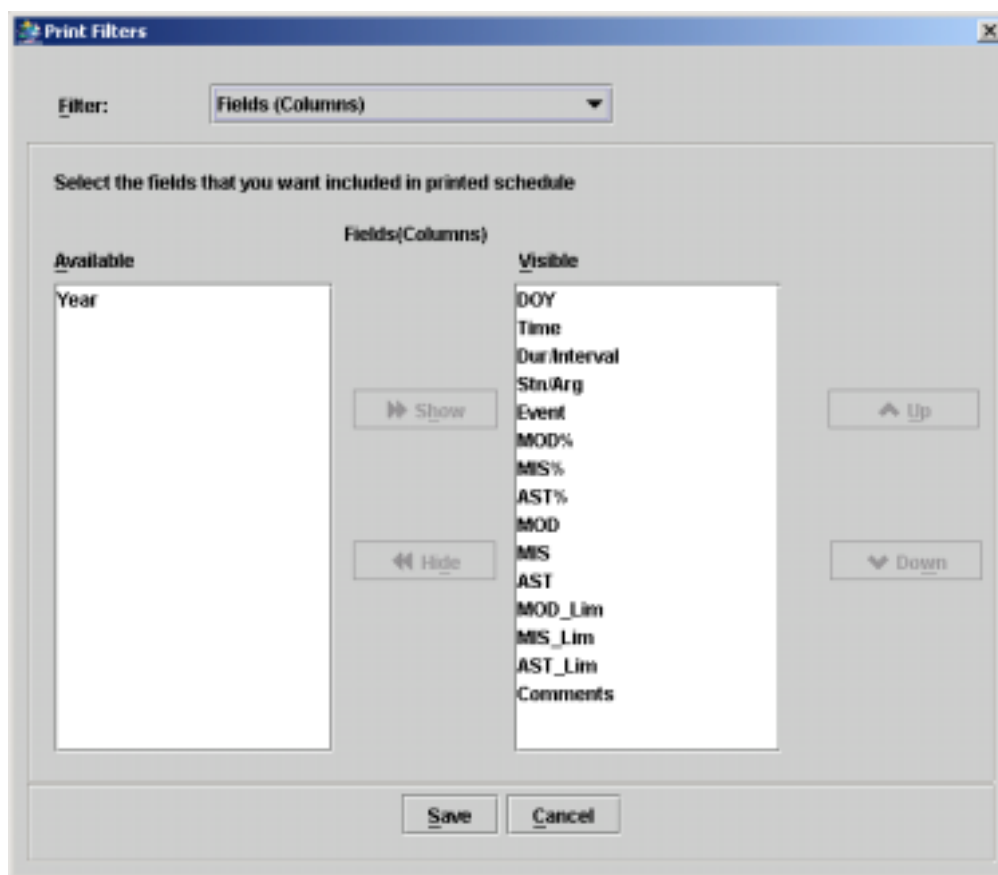
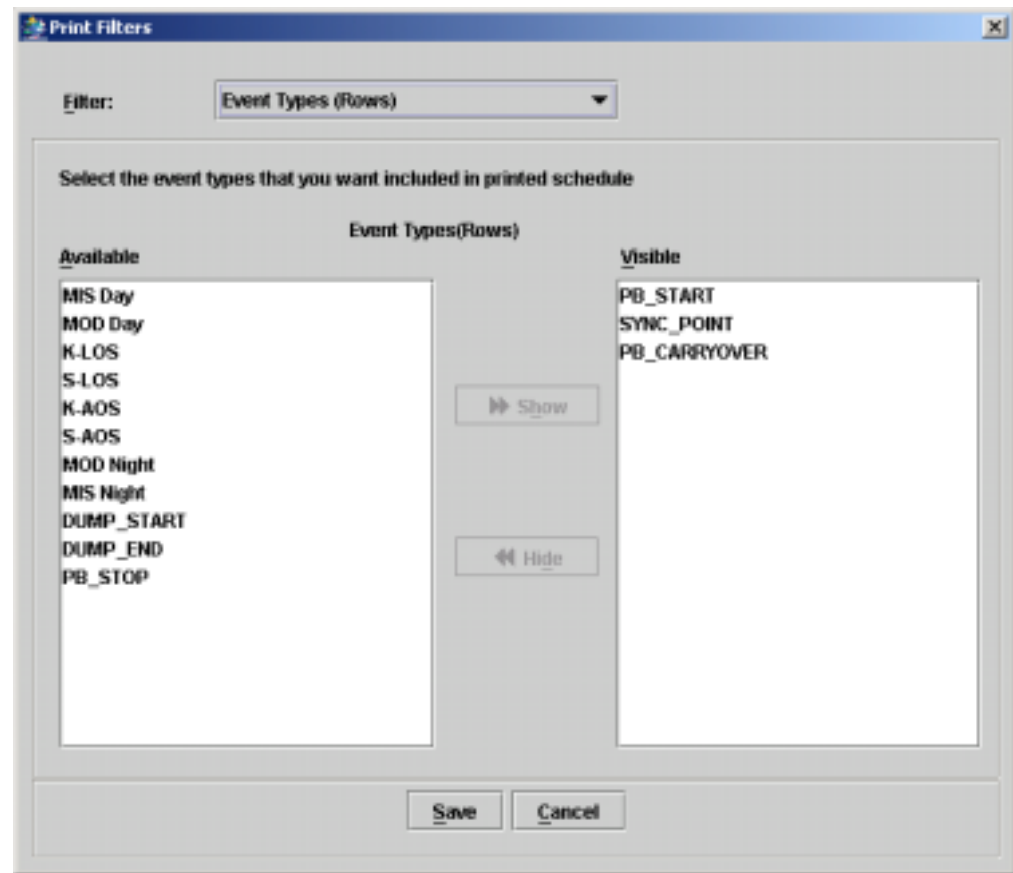


Figure 4.5: The print filters window showing event filter



To make a field or event type visible:

1. Select the field or event type from the left list (Available).
2. Click the **Show** button to move it to the right list (Visible),



To make a field or event type invisible:

1. Select the field or event type from the right list (Visible).
2. Click the **Hide** button to move it to the left list (Available).

Note:

The ordering of fields on the timeline is user customizable. The order in which the fields are displayed in the filter box determines the order of the fields on the timeline.



To change the order of fields on the timeline:

3. Select the field or a group of contiguous fields from the right list (Visible).

4. Click the **Up** button to move the selection up in the list and causes the fields to be moved to the left on the timeline. Selecting the **Down** button to moves the selection down in the list and right on the timeline..

Note: The user may also select multiple contiguous fields before clicking the **Show**, **Hide**, **Up** or **Down** buttons.

5 Miscellaneous Information

5.1 Preferences

Overview

The SPLAT preferences provide the user with a mechanism for customizing parts of the SPLAT user interface through the preferences window. Through the SPLAT preferences, the user can customize the size of fonts used on the timeline, the colors used to represent each of the event types and more.



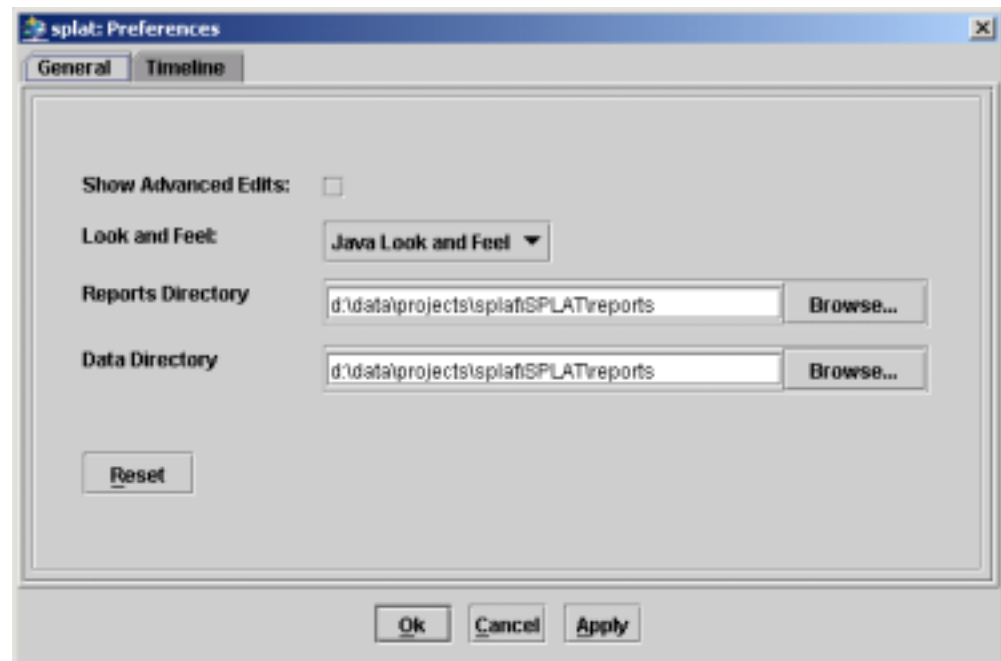
To open the preferences window:

Pull down the **Settings** menu and choose **Preferences...** OR

Use the *ALT+P* keyboard shortcut.

Figure 5.1 shows the SPLAT preference dialog..

Figure 5.1: The Preferences Window



Note:

The preferences window has two tabs. The first, titled “General”, contains settings that affect the general appearance of SPLAT. The second, “Timeline”, provides access to settings that affect the display of data on the timeline.



The General Tab contains the following options:

Show Advanced Edits	Check this option to instruct SPLAT to automatically display the modeling parameters window in <i>Advanced Mode</i> . See Section 5.4: Modeling Parameters
---------------------	--

Look and Feel	Use this drop down menu to choose a look and feel for SPLAT. The Java Look and Feel (the default) gives SPLAT the look and feel of a typical Java application. The Microsoft Windows Look and Feel makes SPLAT appear like any other Windows applications. The CDE/Motif Look and Feel makes SPLAT appear like a Common Desktop Environment (CDE) or UNIX application.
Reports Directory	The default directory SPLAT for report files.
Data Directory	The default directory for schedule saves.



The Timeline tab contains the following options:

Font Size	The font size used on the timeline display. Note that this setting only affects the data section of the timeline. The command buttons, for adding dump windows and comments, will remain the same size
Color of X-band Contacts	Color for displaying x-band contacts on the timeline.
Color of S-band Contacts	Color for displaying s-band contacts on the timeline.
Color of K-Band Contacts	Color for displaying k-band contacts on the timeline.
Color of Dump Windows	Color for displaying dump windows on the timeline.
Color of Playback Windows	Color for displaying playback windows on the timeline.
Color of Rate Change Events	Color for displaying rate change events on the timeline.

Note: The user can reset the settings to the default values by clicking on the **Reset** button.

5.2 Dump Windows

Overview

Dump windows are intervals within a contact during which the data in the SSR buffers may be played back. SPLAT automatically creates and adds dump windows to X and K band contact periods during contact list creation. SPLAT also allows the user to add additional dump windows, edit, or delete existing dump windows using the dump window editor.



To add a new dump window:

Click the **Add** button next to the corresponding K or X band contact. Figure 5.2 shows an empty dump window editor.

To view or edit an existing dump window:

Click the **Edit** button next to the dump window. Figure 5.3 shows the dump window editor with dump window settings loaded.

Figure 5.2: The dump window editor opened for adding a new dump window

AOS/LOS	Start Date/Time	End Date/Time	MODIS Max %	MISR Max %	ASTER Max %

Save Cancel

Figure 5.3: The dump window editor opened for editing an existing dump window

AOS/LOS	Start Date/Time	End Date/Time	MODIS Max %	MISR Max %	ASTER Max %
AOS	2002 180 12:27:00	2002 180 12:29:00	12	15	0

Save Delete Cancel



From the dump window editor:

1. Click the **Save** button to save.
2. Click the **Delete** button (if available) to delete the dump window.
3. Click the **Cancel** button to cancel changes.

Note:

Changing the values of a dump window invalidates associated playbacks in the dump window and causes them to be removed.

Also adding, editing or deleting a dump window will cause the playback schedule to be re-generated

5.3 Synchronization Points

Overview

A synchronization point is the latest contact before the start of the planning horizon long enough to completely empty the SSR buffers. A synchronization point is needed before a playback schedule can be generated.

While creating contacts, SPLAT generates a list of "candidate" synchronization points and selects one of the candidates as the default synchronization point for scheduling. SPLAT allows the user to select a different synchronization point using the Synchronization Point window.

If an SSR buffer states report is not specified in the scheduling options, no candidate synchronization point is created. In addition, dump windows are not automatically created.



To open the synchronization points window:

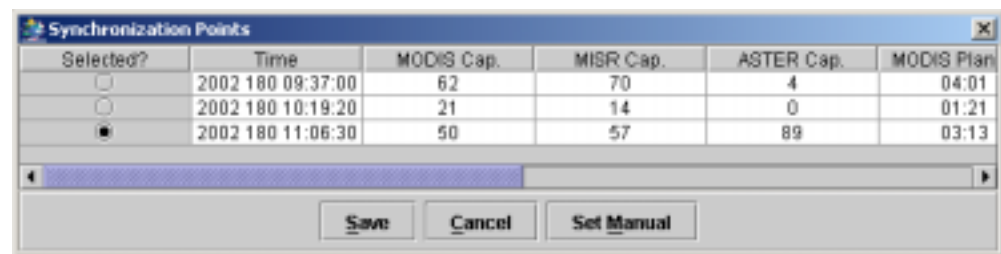
Pull down the **File** menu and choose **Synchronization Points...** OR

Click on the **Synchronization Points** icon on the toolbar.



Figure 5.4 shows the synchronization point selection window..

Figure 5.4: The Synchronization Points Window



To select a different synchronization point:

1. Click the radio button to the left of the desired synchronization point.
2. Click the *Save* button to save the new selection.



To select a manual synchronization point:

1. Click the *Set Manual* button
2. SPLAT will display a dialog where the user can enter the start date/time of the manual synchronization point. The date/time entered must be within a contact period.

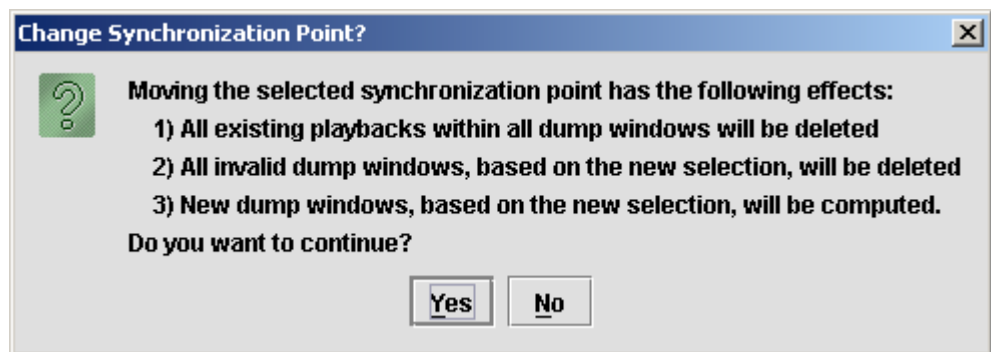
3. After the user enters a valid start date/time, SPLAT creates a manual synchronization point and adds it to the list of synchronization points. The newly added manual synchronization point is automatically selected and replaces any existing manual synchronization point.

Note:

Selecting a new synchronization point causes SPLAT to move the synchronization point in the timeline, re-compute dump windows and re-generate the playback schedule. Dump windows that are invalid (i.e. are before the newly selected synchronization point) are deleted. In addition, selection of a new synchronization point invalidates and deletes all existing playbacks.

Prior to moving the synchronization point, SPLAT prompts the user to confirm the new synchronization point. The prompt is shown in Figure 5.5.

Figure 5.5: SPLAT prompt



5.4 Modeling Parameters

Overview

The modeling parameters are configurable parameters and represent values such as buffer capacities and rates used to compute playback durations and buffer usage values during schedule generation. The values include capacities of the MODIS, MISR and ASTER buffers, conversion rates between bits and Supersets, imaging rates, buffer playback rates, playback priorities etc.



To open the modeling parameters window:

Pull down the **Settings** menu and choose **Modeling Parameters...** OR

Use the **ALT+M** keyboard shortcut.

The modeling parameters window is shown in Figures 5.5 and 5.6.

Figure 5.5: The Modeling Parameters Window, without advanced edits

The screenshot shows the 'Modeling Parameters' dialog box. It contains three sections for buffer capacities: MODIS (36), MISR (20), and ASTER (58). At the bottom are 'Save', 'Cancel', and '>> Show Advanced' buttons.

Figure 5.6: The Modeling Parameters Window, with advanced edits

The screenshot shows the 'Modeling Parameters' dialog box with advanced options expanded. It includes sections for:

- MODIS**: Buffer Capacity (20), Day Imaging Rate (10,886,117,647,855), Night Imaging Rate (5,182,783,100,854), Day Offset (00:00), Night Offset (00:00).
- MISR**: Buffer Capacity (20), Day Imaging Rate (8,485,877,828,543), Night Imaging Rate (1,181,357,489,067,348), Day Offset (00:30), Night Offset (00:30).
- ASTER**: Buffer Capacity (58), Auto Imaging Rates (Full...).
- Playback Rates**: Ground Contact Rate (158,888,000), Playback Offset (00:15), Bits/Superset (1,482,382,720).
- ASTER Instrument's Imaging Rates**: IR Imaging Rate (4,188,900), SWIR Imaging Rate (23,852,000), VNIR1 Imaging Rate (28,819,000), VNIR2 Imaging Rate (15,819,000).
- Group Time Allocation Priority (PEP/LEX)**: A list box with MODIS selected, and buttons for 'Up', 'Down', and 'Reset'.

 At the bottom are 'Save', 'Cancel', and '<< Hide Advanced' buttons.

Note:

The user may switch between advanced and regular mode by clicking the *Show/Hide Advanced* button.

Also note that the user can customize SPLAT so that the tool always show the modeling parameters window in advanced mode through the Preferences window. See Section 5.1: [Preferences](#)



For MODIS and MISR, the dialog allows the user to set the following:

- *Buffer Capacity in supersets.*
- *Day Imaging Rate in bits per second.*
- *Night Imaging Rate in bits per second.*
- *Day Offset in MM:SS format.*
- *Night Offset in MM:SS format.*

For ASTER, the user can set:

- *Buffer Capacity in supersets.*
- *Auto Imaging Rates:* Use this button to open the ASTER Rates editor. See Section 5.5: [ASTER RTCS Identifiers](#).

This dialog also lets the user edit the following playback rates:

- *Ground Contact Rate (Bps).*
- *Playback Offset (MM:SS).*
- *Bits/Superset.*

Dump Time Allocation Priority: This allows the user to modify the PBFLEX dump time allocation priority. Use the Up and Down buttons to move buffers up and down in priority.

ASTER Instruments Imaging Rates:

- *TIR Imaging Rate in bits per second.*
- *SWIR Imaging Rate in bits per second.*
- *VNIR1 Imaging Rate in bits per second.*
- *VNIR2 Imaging Rate in bits per second.*

5.5 ASTER RTCS Identifiers

Overview

ASTER RTCS identifiers are used to model the behavior of the RTCS macros in Mission Management Software (MMS). The ASTER instrument is really a series of four instruments operating in different configurations to provide a series of modes of operation. ASTER RTCS macros define individual modes of operation for the ASTER instrument. ASTER is composed of the following instruments: Short-wave Infrared (SWIR), Thermal Infrared (TIR) and two Very Near Infrared instruments (VNIR1 and VNIR2). Each ASTER RTCS is a macro and contains a description of the instruments used, and when they turn on/off relative to the command time. SPLAT's default settings include RTCS macro definitions for the most commonly used ASTER RTCS macros. Macros can be added, edited or deleted via the ASTER Rates window.



To open the ASTER Rates window:

Pull down the **Settings** menu and choose **ASTER Rates...** OR

Use the **ALT+A** keyboard shortcut.

The ASTER Rates window is shown in Figure 5.7.

Figure 5.7: The ASTER Rates window showing default RTCS macros



Note:

In order to combine adding and editing RTCS macros functionality, the ASTER Rates window operates in two modes:

- Add mode for adding new RTCS macros.
- Edit mode for editing/deleting existing RTCS macros.

Depending on the mode the window is in some buttons may be unavailable.



To add a new RTCS macro:

1. Fill in all the required information about the new macro. All fields are required (some fields have default values already filled in).
2. Click the **Save** button to save the new macro.

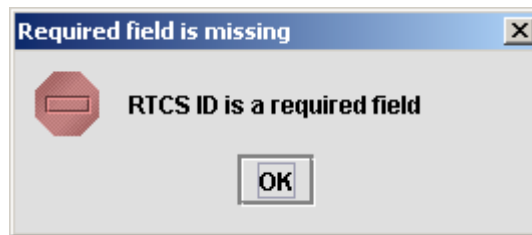
3. SPLAT will display an error if a required field isn't entered. See Figure 5.8.



To edit/delete an existing RTCS macro:

1. Double click the RTCS macro (in the display table).
2. SPLAT will display the macro's information in the edit fields.
3. Make your changes to the macro.
4. Click the **Save** button to save or the **Delete** button to delete the macro.
5. SPLAT displays an error if a required field isn't entered.

Figure 5.8: SPLAT prompt



5.5 Red and Yellow Limits

Overview

During buffer playback planning, it is necessary to track buffer usage and notify the operator when buffer usages meet or exceed thresholds. The Red and Yellow limit settings in the SPLAT tool provide this functionality. They allow SPLAT to color code buffer usage columns in playbacks when user specified buffer thresholds are met or exceeded. By color-coding the playback entries this way, the operator can visually determine which playbacks exceed the specified thresholds and adjust other dump windows to prevent buffer overrun.



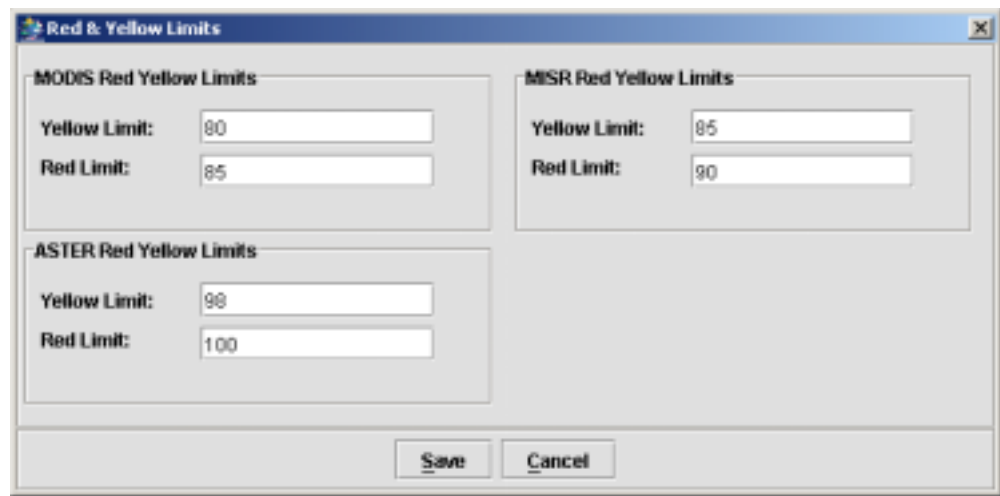
To open the Red and Yellow Limits window:

Pull down the **Settings** menu and choose **Red & Yellow Limits...** OR

Use the **ALT+L** keyboard shortcut.

Figure 5.9 shows the Red & Yellow limits dialog..

Figure 5.9: The Red & Yellow Limits window



To edit Red and Yellow limits:

1. Update one or more of the limit values.
2. Click the **Save** button to save changes or **Cancel** to discard changes.

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